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Project-Based Learning and Educational Games for Fostering Religious Moderation in Islamic Secondary Education

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ABSTRACT

In the digital era, Islamic secondary education faces challenges in fostering students' religious moderation amid the widespread dissemination of diverse religious and ideological narratives through digital media. As a key objective of Aqidah Akhlak education, religious moderation requires learning approaches that promote tolerance, critical thinking, collaboration, and responsible behavior. This study aimed to examine the association of Project-Based Learning (PjBL) and educational games with students' religious moderation attitudes at MAN 1 Kota Serang. Using a quantitative explanatory correlational design, data were collected from 40 students selected through proportionate stratified random sampling from a population of 297 students. PjBL was implemented through collaborative projects on religious moderation themes, while educational games were used as interactive learning activities to strengthen student engagement and understanding. Data were gathered through questionnaires, observations, and documentation and analyzed using multiple regression with IBM SPSS Statistics version 25. The results showed that PjBL ($t = 2.016$, $p = 0.048$) and educational games ($t = 1.780$, $p = 0.042$) were each significantly associated with students' religious moderation attitudes. However, the simultaneous regression model was not statistically significant ($F = 1.380$, $p = 0.264$). The model explained 10.3% of the variance in religious moderation attitudes ($R^2 = 0.103$), indicating that other educational, social, and personal factors contribute more substantially to attitude formation. This study contributes to Islamic education research by providing empirical evidence on the individual associations of PjBL and educational games with religious moderation attitudes and by enriching discussions on innovative pedagogical strategies for values-based learning in the digital age.

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1. INTRODUCTION

Islamic Education (PAI) aims to instill moral values, religious understanding, and the application of Islamic principles in students' daily lives. The *Aqidah Akhlak* subject, encompassing Islamic creed and morals, serves as a foundational component in developing students' character and worldview. However, in the context of contemporary education, the challenge is no longer limited to knowledge transmission but extends to the formation of students' attitudes and dispositions, particularly in responding to religious diversity and digital exposure (Coussens et al., 2022). Recent data from the Islamic Research Center (PPIM) at UIN Jakarta demonstrates that internet usage among students significantly contributes to increased intolerance among millennial and Generation Z demographics. This indicates a gap between cognitive religious understanding and affective-attitudinal development, which has not been adequately addressed in current instructional practices (Kulbi, 2020).

Religious moderation—defined as maintaining a balanced approach to faith that respects national commitment, practices tolerance, rejects violence, and accommodates local cultural traditions—can be conceptually framed within values education and character education paradigms, where learning outcomes are expected to be associated with not only knowledge but also attitudes and behaviours (Elbasani, 2017; Mahmud, 2022; et al., 2023; Nugroho, 2024; Pajarianto, Pribadi, & Sari, 2022; Riyawi & Febriansyah, 2023). Within this framework, religious moderation is positioned as an internalised value constructed through experiential learning, social interaction, and reflective practice, rather than passive reception of doctrinal content. The current implementation of religious moderation in madrasahs has been characterised as "less optimal," evidenced by persistent intolerance among students and limited teachers' understanding of moderation principles. MAN 1 Kota Serang, as a prominent boarding school with diverse student backgrounds, occupies a strategic position to demonstrate commitment to these values through intentional curricular and pedagogical approaches

Project Based Learning represents an instructional model that engages students in authentic, real world problem-solving activities over extended periods (Almulla, 2020; DeFillippi & Milter, 2009; Dole, Bloom, & Doss, 2017; Karan & Brown, 2022; Kokotsaki, Menzies, & Wiggins, 2016). Originating from constructivist educational theory, PjBL emphasises student agency, collaborative inquiry, and the production of tangible outcomes (Bender, 2012). Compared to traditional lecture-based or teacher-centred approaches, PjBL is considered more supportive of value internalisation because it situates learning in meaningful, real-life contexts that require ethical reasoning and social interaction. In the context of Islamic education, PjBL facilitates contextualization of religious values through projects addressing contemporary social issues—such as creating educational content on social ethics, visiting and caring for the sick, and applying moderation principles in daily life. This practical approach **is** associated with students' capacity to internalise abstract theological concepts through direct experience and meaningful engagement.

Strengthening the values of religious moderation in madrasas is influenced by various interrelated factors. It depends not only on the content of the subject matter but also on the delivery method, the choice of learning media, and the pedagogical approach used by teachers (Hadini et al., 2024; Kosim et al., 2024; Masturin, 2022; Rahmadi & Hamdan, 2023; Sahri & Aziz, 2025). Previous studies have tended to examine these factors in isolation, with limited attention to integrative pedagogical models that simultaneously address cognitive, affective, and behavioural dimensions of learning. Moreover, research specifically linking PjBL or educational games to the development of religious moderation attitudes in Islamic education contexts remains scarce and fragmented. In practice, conventional and less interactive approaches still dominate, resulting in suboptimal internalisation of values such as tolerance, balance, openness, and respect for diversity.

Project-Based Learning (PjBL) and educational games are two innovative approaches associated with higher student engagement and motivation in the teaching and learning process. Project-based learning (PjBL) provides students with opportunities to learn through hands-on experience, exploration, and the completion of projects relevant to real life (Lopez-Gazpio, 2022; Malik & Zhu, 2023; Pratiwi, Zahratunnisa, & ..., 2025; Shrimal, 2024). Meanwhile, educational games are associated with the affective dimension of learning by fostering engagement, emotional involvement, and sustained

motivation—factors that are crucial in shaping attitudes and value orientation. Educational games incorporate elements such as challenges, levels, rewards, and interactive simulations, creating an engaging learning environment.

The selection of PjBL and educational games in this study is based on their complementary strengths: PjBL emphasises experiential and collaborative learning processes, while educational games enhance motivation and emotional engagement. Compared to other pedagogical models, such as direct instruction or discussion-based learning, this combination is considered more capable of addressing the multidimensional nature of religious moderation, which involves cognition, attitude, and behaviour simultaneously.

Despite their potential, few studies have examined the combined effect of these two approaches within Islamic education, particularly in fostering religious moderation attitudes. This represents a clear research gap and highlights the novelty of this study, which integrates PjBL and educational games into a unified pedagogical framework. The integration of Project-based learning (PjBL) and educational games may support a more dynamic learning model and encourage full student participation, while also helping teachers create a contextual, creative, and meaningful learning process.

Based on the theoretical and empirical considerations above, this study proposes that the integration of Project-Based Learning and educational games has a significant association with students' attitudes toward religious moderation. Therefore, this study aims to examine both the individual and simultaneous associations of these two approaches with the development of religious moderation attitudes among students.

2. METHODS

2.1 Research Design and Population

This study employed a quantitative explanatory correlational design, aiming to examine the causal associations between Project-Based Learning (PjBL), educational games, and students' religious moderation attitudes. Although survey techniques were used for data collection, the primary analytical approach (multiple regression) positions this study within an explanatory correlational framework rather than a purely descriptive survey design.

The study was conducted at MAN 1 Kota Serang, Banten Province, Indonesia, with a total population of 297 students comprising all twelfth-grade students. The population was distributed across eight classes, consisting of four science (IPA) classes, three social sciences (IPS) classes, and one religious studies class. The sampling technique employed was proportionate stratified random sampling, in which the population was divided into several strata based on academic major. The sample size from each stratum was then determined proportionally according to the number of students in each group. Subsequently, the samples were selected randomly, ensuring that each subgroup within the population was proportionally represented.

A sample of 40 students (13% of the population) was obtained. Although relatively small, this sample size meets the minimum requirements for regression analysis, which typically recommend 10–15 observations per predictor variable. With two independent variables in this study, the sample size satisfies this criterion and remains acceptable for exploratory explanatory analysis in educational research contexts (Sari & Asmendri, 2020). Furthermore, the sample size was constrained by access, time, and institutional considerations typical of school-based research.

2.2 Variables and Operationalisation

The independent variables were: (1) Project-Based Learning (PjBL) implementation, measured through six core stages of project-based learning, namely starting with the essential question, designing a project plan, creating a schedule, monitoring project progress, assessing project outcomes, and evaluating learning experiences; and (2) Educational Games utilisation, measured through material relevance, students' enthusiasm, and user experience during game-based learning activities. It is

important to note that the primary data collected through the questionnaire reflect students' perceptions of the implementation of PjBL and educational games, while observation and documentation were used to capture the actual implementation as supporting (triangulation) data. The dependent variable, Religious Moderation Attitudes (Y), was operationalised as four indicators: national commitment, tolerance toward diverse perspectives, rejection of violence, and accommodation of local cultural traditions. All variables were measured using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Scores for each variable were obtained by summing item responses and calculating mean scores, with higher scores indicating stronger presence of the measured construct.

Three complementary instruments were employed: 1. Questionnaire (Likert-scale): Designed with 40-item instruments measuring students' perceptions of PjBL implementation (18 items), educational games engagement (9 items), and religious moderation attitudes (13 items), using 5-point Likert scales (strongly disagree to strongly agree). The questionnaire was developed through several stages: (a) item construction based on theoretical indicators; (b) expert judgment by two specialists in Islamic education and educational measurement to ensure content validity; and (c) pilot testing on a small group of students to refine item clarity. Content validity was confirmed through expert agreement, while construct validity was examined using item-total correlation, with all items exceeding the minimum threshold ($r > 0.30$). 2. Observation: Structured observations were conducted across eight instructional sessions to document the implementation of Project-Based Learning (PjBL) and educational games in the Aqidah Akhlak classroom. Observations focused on learning activities conducted during separate PjBL and educational game sessions, including student participation, collaboration, engagement, classroom interaction, and adherence to planned instructional procedures. An observation checklist was developed based on predefined indicators, and observations were systematically recorded using standardized protocols to ensure consistency and reliability of the collected data. 3. Documentation: Collection of student project artefacts, assessment rubrics, and curriculum documents to triangulate questionnaire findings. These documents were analysed to verify the alignment between reported perceptions and actual instructional practices.

The reliability test indicated good internal consistency for each scale: PjBL (Cronbach's alpha = 0.74), Educational Games (α = 0.72), and Religious Moderation (α = 0.71). All values exceeded the minimum threshold of 0.70, indicating that the instruments are considered reliable for educational research and suitable for subsequent statistical analysis.

2.3 Implementation of PjBL and Educational Games

The implementation of Project-Based Learning (PjBL) and educational games was observed in the Aqidah Akhlak subject at MAN 1 Kota Serang. Both instructional approaches were implemented in separate learning sessions over eight instructional meetings during the first semester of the 2025–2026 academic year. The instructional content focused on topics related to religious moderation, including moderation (*tawasuth*), tolerance (*tasamuh*), equality (*musawah*), and brotherhood (*ukhuwah*).

During sessions employing Project-Based Learning (PjBL), students worked collaboratively in small groups to develop projects addressing themes of religious moderation and various socio-religious issues encountered in society. The project activities included problem identification, information gathering, group discussion, solution design, product development, presentation of outcomes, and reflection. The resulting products consisted of posters, videos, reports, presentations, and digital campaigns promoting religious moderation. Through these projects, students were encouraged to connect *Aqidah Akhlak* concepts with real-life situations while fostering tolerance, national commitment, appreciation of diversity, and moderate religious attitudes.

In separate learning sessions, educational games were employed through the use of Kahoot, Quizizz, and Wordwall, as well as scenario-based learning activities. These games were designed to reinforce students' understanding of religious moderation concepts through interactive quizzes, decision-making tasks, and collaborative challenges. Immediate feedback and reward mechanisms were employed to enhance student engagement and encourage active participation throughout the learning process.

Each instructional session followed a structured sequence consisting of: (1) introduction and motivation; (2) presentation of learning objectives; (3) implementation of either PjBL activities or educational games; (4) group discussion and reflection; and (5) evaluation and feedback. Observations were conducted throughout the implementation process to document student participation, collaboration, learning engagement, and adherence to the planned instructional procedures.

2.4 Data Analysis Procedures

Statistical analysis was performed using IBM SPSS Statistics version 25. Preliminary analyses included descriptive statistics (means and standard deviations), reliability testing (Cronbach's alpha ≥ 0.70), and regression model assumptions testing (normality, heteroscedasticity, and multicollinearity).

Assumption testing results indicated that the data met regression requirements: (1) normality test (Kolmogorov–Smirnov) showed $p > 0.05$, indicating normally distributed data; (2) multicollinearity diagnostics showed tolerance values > 0.10 and VIF < 10, indicating no multicollinearity; and (3) heteroscedasticity tests (scatterplot and Glejser test) indicated no significant heteroscedasticity ($p > 0.05$).

Primary analyses comprised: 1. Partial Regression Analysis: To examine individual associations of PjBL (X_1) and educational games (X_2) on religious moderation attitudes (Y), using the model: $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \varepsilon$. Statistical significance was evaluated at the 0.05 level using two-tailed significance tests. The regression coefficients, associated p-values, confidence intervals, and effect sizes were interpreted following standard recommendations for educational research (Field, 2022; Tabachnick & Fidell, 2019).

2.5 Ethical Considerations

Research was conducted with institutional approval from school leadership and informed consent from student participants. Formal permission was obtained from the head of MAN 1 Kota Serang prior to data collection. Participants were informed about the purpose of the study, their voluntary participation, and their right to withdraw at any time without consequences. Written informed consent was obtained from all participants, and parental/guardian consent was secured where required.

Anonymity was ensured by using coded identifiers instead of student names, and all data were kept confidential and used solely for research purposes. Data were stored securely and accessed only by the researcher.

3. FINDINGS AND DISCUSSION

3.1 Findings

3.1.1 Instrument Validity and Reliability

Prior to data collection, the questionnaire was reviewed by three experts consisting of an Islamic Education lecturer, an educational evaluation specialist, and a senior madrasah teacher. The validation process assessed content relevance, construct representation, language clarity, and suitability within the context of Islamic education. Based on expert judgment, the instrument was considered appropriate for use after minor revisions.

Item validity was examined using corrected item–total correlation analysis. All questionnaire items achieved corrected item–total correlation values above the minimum threshold of 0.30 ($r > 0.30$), indicating acceptable item validity; therefore, all items were retained for further analysis.

Reliability analysis showed that the Project-Based Learning (PjBL) scale obtained a Cronbach's alpha coefficient of 0.74, while the Educational Games scale obtained an alpha coefficient of 0.72, and the Religious Moderation scale obtained an alpha coefficient of 0.71. In educational research, Cronbach's alpha values above 0.70 are generally considered acceptable for demonstrating internal consistency. Therefore, all scales were considered sufficiently reliable for subsequent analysis.

3.1.2 Instrument Indicators and Sample Questionnaire Items

The Project-Based Learning (PjBL) instrument measured students' perceptions of the implementation quality of the six core stages of PjBL, namely starting with the essential question, designing a project plan, creating a schedule, monitoring project progress, assessing project outcomes, and evaluating learning experiences. The Educational Games instrument assessed students' perceptions regarding material relevance, students' enthusiasm, and user experience during game-based learning activities. Meanwhile, religious moderation attitudes were measured through four indicators: tolerance, national commitment, anti-violence orientation, and accommodation of local culture. All variables were measured using self-report questionnaires. Therefore, the findings primarily reflect students' subjective perceptions of learning implementation and religious moderation attitudes rather than objective measures of instructional effectiveness.

Table 1. Research Variables, Indicators, and Sample Questionnaire Items

Variable	Indicator	Sample Questionnaire Item
Project-Based Learning (PjBL)	Start with the Essential Question	The initial project challenges stimulate critical thinking regarding issues of religious moderation and social tolerance.
	Design a Plan for the Project	I actively participate in formulating project methodologies and systematic work procedures.
	Create a Schedule	I am able to develop a strategic project timeline independently and comply with deadlines.
	Monitor the Students and the Progress of the Project	The teacher regularly facilitates structured monitoring sessions on project progress.
	Assess the Outcome	Project assessment comprehensively covers outputs (products/solutions), work processes, and team collaboration quality.
	Evaluate the Experience	I evaluate how this project has changed my perspective on religious moderation.
Educational Games	Material Relevance	The content of educational games is highly relevant to the learning materials studied in class.
	Students' Enthusiasm Level	I feel interested and enthusiastic whenever the teacher uses educational games.
	User Experience	The educational game is easy to understand and operate (user-friendly).
Religious Moderation Attitudes	Tolerance	I respect differences in religious views within society.
	National commitment	I actively participate in school activities that strengthen patriotism and national commitment.
	Anti-violence orientation	When conflicts occur among students, I prefer peaceful resolution through teachers or school authorities.
	Accommodation of local culture	I am willing to participate in local cultural traditions as a form of social respect.

3.1.3 Descriptive Statistics

Participating students demonstrated moderate baseline attitudes toward religious moderation ($M = 3.52$, $SD = 0.68$), suggesting receptivity to interventions. PjBL implementation received moderate ratings ($M = 3.41$, $SD = 0.75$), while educational games received slightly higher engagement ratings ($M = 3.58$, $SD = 0.71$). These descriptive results indicate sufficient variability in the data, supporting the feasibility of further inferential analysis.

3.1.4 Partial Associations of Project-Based Learning

The regression coefficients for Project-Based Learning ($\beta = 0.292$, $p = .048$) and Educational Games ($\beta = 0.222$, $p = .042$) reached the conventional significance threshold when interpreted individually.

However, the overall regression model was not statistically significant (F = 1.380, p = .264), indicating that the combined explanatory contribution of the two predictors was insufficient to explain students' religious moderation attitudes as a whole. Therefore, the individual coefficients should be interpreted cautiously and not as evidence of a robust predictive model. Students engaged in PjBL demonstrated increased inclinations toward religious moderation, including enhanced tolerance for diverse perspectives, greater commitment to national values, and a greater appreciation for local cultural traditions when encountering them in project contexts.

3.1.5 Partial Associations of Educational Games

Educational games demonstrated a significant partial association: $\beta_2 = 0.243$, t = 1.78, df = 37, p = 0.042 ($p < 0.05$). The previous reporting format (t (1,1)) has been corrected to align with standard regression reporting conventions. This result confirms that educational games are significantly associated with religious moderation attitudes in the expected direction. Student engagement with game-based learning platforms correlated with improved attitudes toward moderation, suggesting that interactive, reward-structured learning environments facilitate the internalisation of religious moderation principles.

3.1.6 Combined Associations of PjBL and Educational Games

Contrary to expectations, the multiple regression analysis examining the combined contribution of Project-Based Learning (PjBL) and educational games revealed no significant association with students' religious moderation attitudes (F = 1.380, p = 0.264). The coefficient of determination (R^2 = 0.103) indicates that the two pedagogical approaches together accounted for 10.3% of the variance in students' religious moderation attitudes, while the adjusted R^2 value of 0.028 suggests a relatively low explanatory power after adjustment for model complexity.

This finding indicates an apparent inconsistency, as both PjBL (t = 2.016, p = 0.048) and educational games (t = 1.780, p = 0.042) demonstrated significant partial associations with students' religious moderation attitudes, yet their combined effect in the overall regression model was not statistically significant. This pattern suggests that the explanatory contributions of each independent variable may overlap when included simultaneously in the same model, or that their combined predictive power is not strong enough to produce a statistically significant overall effect.

Table 2. Regression Analysis Summary

Predictor Variable	β Coefficient	t-value	p-value	Partial Association
Project-Based Learning (X_1)	0.292	2.016	0.048*	Significant
Educational Games (X_2)	0.222	1.780	0.042*	Significant
Combined Model ($X_1 + X_2$)	-	F=1.380	0.264	Not Significant

*$p < 0.05$, Critical t-value = 1.68, df = 37, N = 40

Table 3. Multiple Regression Analysis of Project-Based Learning and Educational Games on Students' Religious Moderation Attitudes

Predictor Variable	B	SE	β	t	p	Tolerance	VIF
Constant	16.146	6.260	-	2.579	0.014	-	-
Project-Based Learning	0.305	0.189	0.292	2.016	0.048	0.765	1.307
Educational Games	0.216	0.157	0.222	1.780	0.042	0.954	1.048

Table 4. Model Statistics

R	R^2	Adjusted R^2	F	p
0.321[a]	0.103	0.028	1.380	0.264

The table above presents the results of the multiple regression analysis examining the associations between Project-Based Learning (PjBL), educational games, and students' religious moderation

attitudes. The regression model produced a constant value of 16.146, indicating that when both independent variables were held constant, the predicted score of students' religious moderation attitudes was 16.146.

The Project-Based Learning (PjBL) variable showed a positive and statistically significant association with students' religious moderation attitudes (B = 0.305, β = 0.292, t = 2.016, p = 0.048), while the educational games variable also demonstrated a positive and statistically significant association (B = 0.216, β = 0.222, t = 1.780, p = 0.042). However, the simultaneous regression model was not statistically significant (F = 1.380, p = 0.264), indicating that the two predictors jointly did not significantly explain students' religious moderation attitudes. The coefficient of determination (R^2 = 0.103) suggests that the model explained 10.3% of the variance, whereas the adjusted R^2 (0.028) indicates a relatively low explanatory contribution after adjustment for model complexity. The multicollinearity test further confirmed the absence of multicollinearity issues, as all tolerance values were above 0.10 and all VIF values were below 10.

Although both predictors were significant individually, the overall model was not significant. This may be explained by the relatively small sample size (N = 40), which reduces statistical power, and the possibility that the explanatory effects of the predictors overlap when analyzed simultaneously.

3.2 Discussion

The present findings require careful interpretation. Although the regression coefficients for Project-Based Learning and Educational Games reached statistical significance when examined individually, the overall regression model was not statistically significant. This statistical pattern suggests that the observed associations should not be interpreted as strong predictive evidence but rather as preliminary indications that both pedagogical approaches may contribute to students' religious moderation attitudes under certain instructional conditions. Consequently, the findings should be interpreted as exploratory rather than conclusive.

The significant partial effects of both PjBL and educational games align with constructivist learning theory and contemporary pedagogical literature (Malik & Zhu, 2023; Pratiwi et al., 2025). The significant relationship between PjBL and religious moderation attitudes may be explained by the model's capacity to contextualise abstract theological concepts through authentic problem-solving experiences. When students engage in projects that address real social issues through Islamic ethical frameworks, they develop a practical understanding of religious moderation beyond mere theoretical memorisation. The generation of tangible project outcomes—educational videos on social ethics, community service documentation, or policy proposals addressing local issues—creates embodied learning experiences that are positively associated with the development of religious moderation attitudes (Azis & Prawironegoro, 2022).

Similarly, the significant association of educational games corroborates findings from research on technology-enhanced learning. The significant relationship between educational games and religious moderation attitudes may be attributed to interactive game mechanics that foster psychological engagement through immediate feedback, achievement recognition, and progressively challenging gameplay. In the context of religious moderation, game-based platforms provide safe spaces for students to explore diverse perspectives, practice tolerance-related decision-making, and receive reinforcement for moderate responses. The combination of engagement and content delivery in educational games appears to show a positive association with students' religious moderation attitudes (Heywood, 2006).

The lack of a significant combined association when both models are implemented simultaneously warrants careful interpretation. The overall regression model did not show a statistically significant relationship between the combined predictors and students' religious moderation attitudes (F = 1.35; p = 0.264). This finding indicates that although Project-Based Learning and educational games were each individually associated with religious moderation attitudes, their combined association was not supported by the overall regression model.

Several explanations merit consideration:

a. Cognitive Overload: Simultaneous exposure to both intensive project-based work and gamified content may create cognitive overload, potentially weakening the positive associations observed compared to isolated implementation.
b. Different Temporal Mechanisms: PjBL and educational games may require different timeframes for effect manifestation. Projects typically demand extended engagement periods (weeks to months), while games provide immediate feedback. Simultaneous implementation may create temporal misalignment.
c. Implementation Fidelity: The non-significant combined association may reflect incomplete integration of models in classroom practice. Teachers may implement models sequentially rather than truly simultaneously, or implementation quality may vary.
d. Measurement Limitations: The questionnaire instrument may not adequately capture interaction effects or synergistic outcomes from combined approaches.
e. Contextual Variables: The adjusted R^2 value of 0.103 indicates that only 10.3% of the variance in students' religious moderation attitudes can be explained by the regression model, while approximately 89.7% is explained by other variables outside the model. This suggests that more dominant contextual factors may shape students' attitudes toward religious moderation.

Previous literature suggests that several external factors play important roles in shaping religious moderation attitudes, including family environment, school culture, peer relationships, religious habituation, and the broader boarding school or madrasah climate**.** Family religious engagement may shape students' foundational values regarding tolerance and respect for diversity. School culture may reinforce norms of inclusiveness and dialogue. Peer interactions can influence daily attitudes and behaviours, especially during adolescence. Religious habituation through regular worship, communal prayers, and moral discipline may strengthen internalised moderate values. Additionally, the broader *pesantren* or madrasah climate may significantly shape students' worldview through formal and informal socialisation processes.

As a boarding school, MAN 1 Kota Serang provides 24-hour opportunities for student interaction that extend beyond classroom instruction. The 89.7% unexplained variance may reflect the substantial contribution of dormitory experiences, peer relationships, informal institutional culture, and daily religious practices in shaping religious moderation attitudes. Therefore, the development of religious moderation cannot be understood solely through classroom pedagogy but should also consider broader educational and social environments, including family environment, school culture, peer influence, religious habituation, and the broader *pesantren* or *madrasah* climate.

Overall, the findings indicate that innovative learning approaches, particularly Project-Based Learning (PjBL) and educational games, are significantly associated with students' attitudes toward religious moderation (Andriani, Masita, & Missouri, 2025; Evcimik & Oruc, 2023; Yulianti, Yusuf Hanafi, & Nurul Murtadho, 2025; Yusti & Ika, 2022). PjBL is significantly associated with religious moderation attitudes through students' engagement with real-life issues, collaboration, and critical reflection on tolerance and mutual respect, while educational games show a positive association through interactive learning and meaningful reflection on moderate religious values. However, although both variables were individually associated with religious moderation attitudes, their combined association was not supported by the overall regression model ($F = 1.35$; $p = 0.264$). Therefore, PjBL and educational games may be regarded as relevant pedagogical approaches individually associated with students' religious moderation attitudes, although their combined relationship was not statistically supported in this study.

From a theoretical perspective, this study extends the literature on religious moderation by demonstrating that innovative pedagogical approaches should not be evaluated solely through their direct statistical contribution to students' attitudes. Rather, religious moderation appears to emerge from a complex interaction among instructional strategies, school culture, family values, peer relationships, and broader social experiences. Consequently, the present findings support a multidimensional perspective in which classroom pedagogy functions as one component within a broader ecosystem of values education rather than as an isolated determinant of religious moderation.

Several limitations should be acknowledged. First, the relatively small sample size reduced statistical power and may have contributed to the non-significant overall regression model. Second, the use of self-report questionnaires introduces the possibility of social desirability bias because students may respond according to socially acceptable religious values rather than their actual beliefs or behaviours. Third, the cross-sectional correlational design precludes causal inference regarding the relationships among the studied variables. Fourth, the study was conducted in a single Islamic secondary school; therefore, caution should be exercised when generalising the findings to other educational contexts with different institutional cultures or student characteristics. Future studies should employ longitudinal or quasi-experimental designs involving larger and more diverse samples to examine causal mechanisms underlying the development of religious moderation attitudes.

4. CONCLUSION

This study provides preliminary empirical evidence that Project-Based Learning and educational games are individually associated with students' religious moderation attitudes in Islamic secondary education. Nevertheless, because the overall regression model was not statistically significant, these findings should be interpreted cautiously and should not be regarded as conclusive evidence of their combined effectiveness. The study contributes to the growing literature on innovative pedagogies for values education by highlighting the importance of considering broader educational ecosystems—including family, school culture, peer interaction, and institutional climate—in shaping students' religious moderation. Future studies employing larger samples, experimental designs, and longitudinal observations are necessary to establish stronger causal evidence regarding the effectiveness of these pedagogical approaches.

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